Geotechnical Courses

Soil Description Workshop
17th May 2016, 3rd June 2016
Rock Description Workshop
6th May 2016, 14th July 2016
Geo Foundation Design
18th May 2016

Health & Safety Courses

IOSH Safe Supervision (3 Day)
23rd - 25th May 2016
IOSH Avoiding Danger (1 Day)
2nd June 2016, 15th July 2016
IOSH Working Safely (1 Day)
20th May 2016

Geotechnical Courses

In Situ Testing
31st May 2016
Geotech' Lab Testing Awareness
10th May 2016, 26th July 2016

Other Events

Geotechnica 2016
6th & 7th July 2016
@ Brunel University, London

theGeotechnica

April 2016 | Issue 49

Cable Percussion Guidance Update

Details of the new, collaborative guidance for Cable Percussion drilling that is soon to be released by the BDA

ALSO INCLUDED:
GEOTECHNICA 2016 CONFERENCE DETAILS

Soil and Rock Handbook

David Norbury discusses the 2nd Edition of his highly regarded handbook

How well do you know PUWER ?

Geotechnical Engineering delve into the Provision and Use of Work Equipment Regulations 1998

Geobrugg Catch Nets at Wookey Hole

A case study looking at innovative methods of installing catch nets

Contents

Welcome

Welcome to the 49th Edition of **theGeotechnica** - the UK's fastest growing online geotechnically focussed e-magazine.

The opening article of this month's issue is an interview with Professor David Norbury. Early 2016 has seen the release of the Second Edition of Professor Norbury's highly acclaimed description handbook – Soil and Rock Description in Engineering Practice. The new handbook has been eagerly awaited by many within the industry, with the latest edition incorporating changes in the national and international standards for logging soils and rock. This month, theGeotechnica discusses details of the new handbook with Professor Norbury himself.

Next up, providing the third in a series of pieces for theGeotechnica is Liz Withington, Senior Manager at Geotechnical Engineering Ltd. This month Liz tackles the Provision and Use of Work Equipment Regulations 1998 - or PUWER for short.

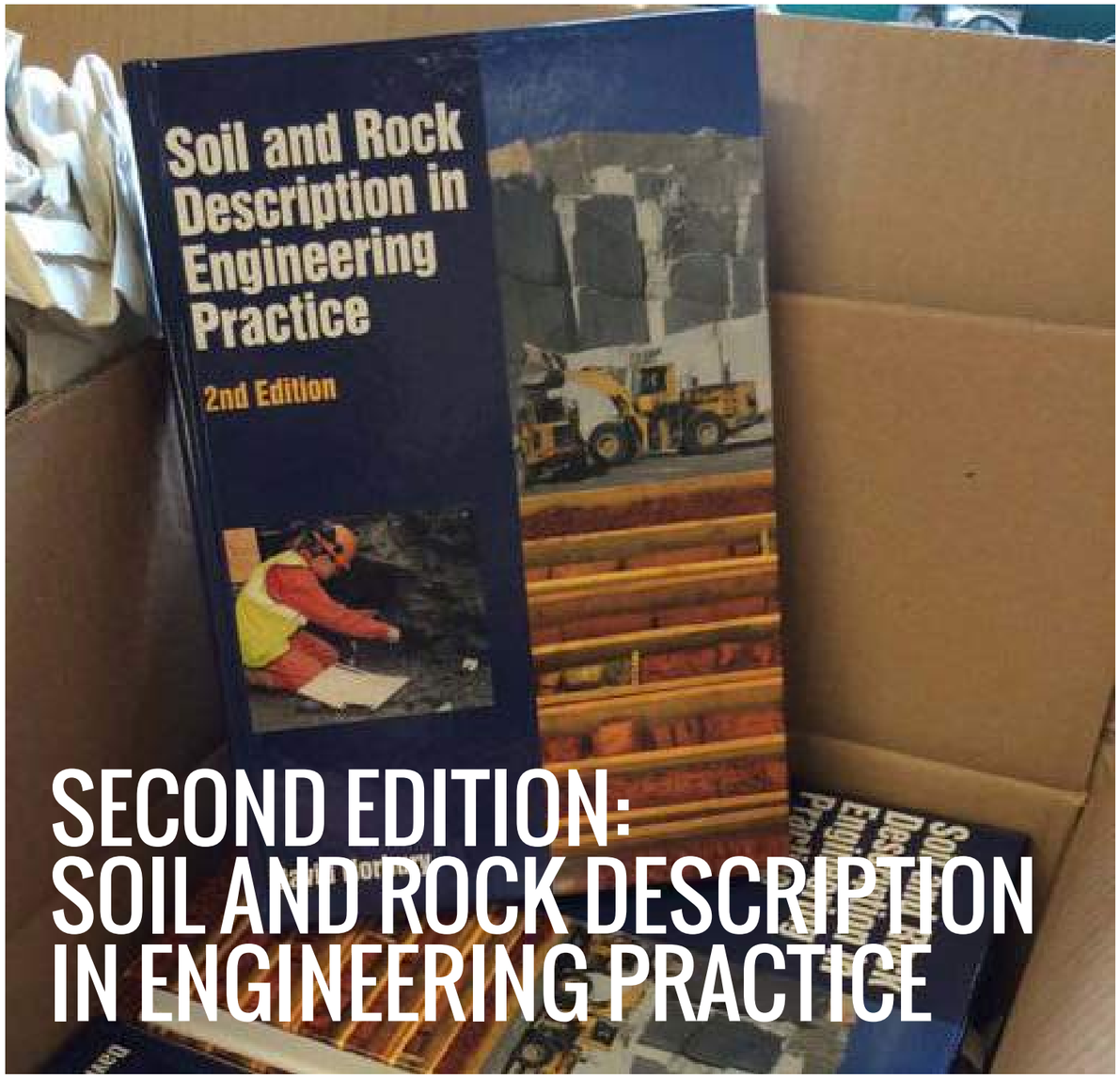
Following on from Liz and providing their first contribution to theGeotechnica is Tony Bailey, Project Manager at Geobrugg AG. In this excellent case study, Tony explains how Geobrugg used innovative methods to install vital catch nets at Wookey Hole.

Our final contribution is also our cover article which is an update on the upcoming release of new Cable Percussion Drilling Guidance notes to be provided by the British Drilling Association. The new guidance will look to build on previous versions to provide the most complete guide to cable percussion drilling that has ever been released in the UK. The writing of the new guidance will be a collaborative effort by a number of highly experienced cable percussion drillers, in the hope that the outcome will be as balanced and detailed as possible.

As with every new edition of the magazine, the Editorial Team here at **theGeotechnica** will be on the lookout for even more new, original and interesting content from all corners of the sector, and would actively encourage all readers to come forward with any appropriate and relevant content - whether it be a small news item or a detailed case study of works recently completed or being undertaken. If this content is media rich and interactive, then all the better. We are looking to increase the already large readership of the magazine through better social media integration and promotion, as well as improving content month on month.

Finally, for any content that is submitted we will ensure that an advertising space, proportionate to the quality of content provided, is reserved should you wish to place an advert in that single edition of the magazine. We hope you enjoy this month's edition of the magazine and are inspired to contribute your own content for the coming editions of **theGeotechnica**.

Editorial Team,
theGeotechnica



SECOND EDITION: SOIL AND ROCK DESCRIPTION IN ENGINEERING PRACTICE

Early 2016 has seen the release of the Second Edition of Professor David Norbury***'s highly acclaimed description handbook – Soil and Rock Description in Engineering Practice. The new handbook has been eagerly awaited by many within the industry, with the latest edition incorporating changes in the national and international standards for logging soils and rock. This month, theGeotechnica discusses details of the new handbook with Professor Norbury himself.***

The handbook is the definitive guide to logging and describing soil and rock, and Professor Norbury is acknowledged as one of the world's leading experts on the subjects.

Since publication of the first edition, procedures used in the description of soils and rocks have continued to develop and evolve. The revised and updated second edition of the Soil and Rock Description in Engineering Practice handbook therefore incorporates changes in national and international standards, and continues to provide invaluable practical guidance in carrying out engineering geological logging of soil and rock samples and exposures in the field.

Following the release of the handbook, theGeotechnica sat down with Professor Norbury to discuss the new edition, as well as the wider topic of soil and rock description.

"… the minute that we think we have cracked Mother Nature, she will kick us in the teeth."

First of all, is there anything you don't know about describing soil and rock, or is there always something to be learned about the art-form?

We are describing whatever Mother Nature gives us, so there is always something new to learn about the description art-form. We are always encountering new materials and having to cover them in different ways. This applies to not only the geology, but also things like how we are going to use the data obtained from description of the exposures including cores and samples.

So yes, there are still lots of things that we don't know about describing soil and rock! In fact, one of things that I teach on the Soil and Rock Description Workshops is that the minute that we think we have cracked Mother Nature, she will kick us in the teeth.

What are the main new changes to this edition of the handbook?

Basically the Second Edition was to catch the changes to the standards environment with the publication of BS5930:2015 and also the changes that we are currently making to the European Standards BS EN ISO14688:1, BS EN ISO 14688:2 and BS EN ISO 14689:1. These European changes will be along within the next year or so, and at that point will hopefully catch up with our national standards.

How important is it to stay up-to-date with the latest changes in standards regarding soil and rock description?

Obviously there is a requirement for overtly and correctly following the standards . Hopefully we are now getting into a position where there won't be much further change to the standards regarding soil and rock description – but I never say never!

One of the biggest changes that I am finding at the moment is that it is not so much the standards themselves, but rather that the level of geological knowledge going into the description process is increasing.

Twenty years ago we just described 'white chalk' and 'grey chalk'; we had a 'muddle of Lambeth Group' and we had tens of metres of 'boring, grey, stiff London Clay'. We now have lithostratigraphic classification schemes whereby we can subdivide the chalk lithologically and therefore stratigraphically; similarly, with the Lambeth Group, similarly with the London Clay, and now also with most of the formations across the United Kingdom.

On the recent and current high-level projects such as Crossrail, Thames Tideway and now HS2, the level of geological input going into the logging, so as to enable lateral correlation of the strata geologically and therefore of the engineering properties, is out of all recognition to what we were doing just a few years ago.

How important is it for the industry as a collective to increase the standard and knowledge going into soil and rock logging?

"... once you get the loggers enthused, you are halfway to producing a good log."

One of the most important things that we are finding on HS2 and also Crossrail and the Thames Tideway is what is happening when you go to the site and talk to the loggers. When they are told: what we are looking for geologically; what features of the geology matter and need to be spotted and recorded; the environments of deposition and the resulting lithologies and variations – in other words how it all got there and what it all means, the field personnel get really excited, even enthused! And once the loggers are enthused, we are halfway to producing a good log.

Is there anything more the industry could be doing to improve the quality of the logging of core?

I think the basic requirement as far as I am concerned is to raise the level of geological input to all investigations to the level that is being employed on current high-level projects. This will enable the loggers to see what they are logging and why and as this is all for a reason. Enthusiasm and engagement will increase and we will get better logs. With this better geological knowledge, we also then have a much better chance of importing precedent engineering knowledge about the strata and therefore getting a better project at the end of the day. ■

The Second Edition of Soil and Rock Description in Engineering Practice is available for purchase now from Whittles Publishing, or directly from Equipe Training. The handbook is also included as part of the course notes for Equipe's Soil and Rock Description Workshops that are run in collaboration with Professor Norbury, who is also the course leader. Places on the Workshops are often in high demand, so to book your place please visit: www.equipegroup.com.

THE GEOTECHNICAL ACADEMY

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The Geotechnical Academy is a partnership between Geotechnical Engineering Ltd & Equipe Training, providing a unique, good value, high quality vocational geotechnical **CPD** and **training** to propel bright engineers through professional hoops and hurdles.

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geotechnical

Equipe Training

CPD Approved Courses for Geotechnical Academy Alumni

Specifying Site Investigations

This one day course will look at the various methods available to carry out intrusive and non intrusive investigation. Whilst the course will concentrate on geotechnical methods some geo-environmental methods will be briefly discussed. The course will look at the aims of SI and categorise the various stages in an investigation.

Soil Description Workshop

From 2007 new European Standards have started replacing the British Standards (Codes) under which investigations in the UK have been carried out. UK working practice will have to change to meet these new requirements but few practitioners are aware of the changes or the timetable. The workshop will comprise a series of lectures on the changes, and lectures on soil description followed by practical sessions describing soil samples.

Rock Description Workshop

From 2007 new European Standards have started replacing the British Standards (Codes) under which investigations in the UK have been carried out. UK working practice will have to change to meet these new requirements but few practitioners are aware of the changes or the timetable. The workshop will comprise a series of lectures on the changes, and lectures on rock description followed by practical sessions describing rock and compiling mechanical logs of rock core.

In Situ Testing

The course will cover both the theory and the practice of various In Situ Testing techniques used on typical geotechnical projects. In addition the courses will consider the effect that Eurocodes will have on the UK's current practice. This course provides an overview of in situ tests used in common practice and some of the more specialist tests together with their advantages and limitations.

Field Instrumentation and Monitoring

The course comprises a comprehensive one day appreciation of the complete process involved in Instrumentation and Monitoring in the geotechnical environment. The course provides an overview of the current guidance documents and their requirements. The course will consider the design of both individual installations and the installation of suites of instruments in the wider site contex.

Geotechnical Foundation Design

This one day course will provide a general overview of foundation design. It will include an assessment of the use and choice of shallow foundations and piles. It will cover the derivation of bearing capacity formula and their use. Exercises will be carried out to calculate the working loads and settlement of simple foundations. The methods used to calculate these will be in accordance with those described in Eurocode.

IOSH Working Safely (on Geotechnical Sites)

This one day course is developed by industry specialists within RPA Safety Services and Equipe Training as a foundation to site safety. Its aim is to impart the core safety skills required of those working on geotechnical sites by building on their existing specialist technical skills. After attending the course, candidates should be able to identify hazards on site, understand basic safety legislation, participate fully and confidently in site safety consultation and manage priority risks to a sufficient standard.

IOSH Avoiding Danger from Underground Services

Partnering with RPA Safety Services once again, Equipe provide another IOSH certified health and safety course. This one day course is aimed at anybody involved in specifying, instructing, managing, supervising or actually breaking ground and really addresses the problems and risks related to underground services, which may be encountered during both planning and execution of geotechnical projects.

IOSH Safe Supervision of Geotechnical Sites

Equipe has partnered with RPA Safety Services, an independent occupational health and safety specialist, to provide a unique IOSH certified course for the Drilling and Geotechnics industry. The three day course is certified by IOSH, is specifically focussed on the geotechnical industry and provides a totally unique and relevant Health and Safety course for managers and supervisors.

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HOW WELL DO YOU KNOW PUWER?

Providing the third in a series of pieces for theGeotechnica is Liz Withington, Senior Manager at [Geotechnical Engineering Ltd](). ***This month Liz tackles the Provision and Use of Work Equipment Regulations 1998 - or PUWER for short.***

In the third of our series of articles looking at aspects of Health and Safety we are looking at the regulation of equipment in the workplace: the Provision and Use of Work Equipment Regulations 1998 (PUWER). These regulations cover all equipment ranging from catering food mixers and step ladders, to company vehicles and drilling rigs.

The regulations state that equipment provided for use at work is:

- Suitable for intended use
- Safe for use, maintained in a safe condition, and regularly inspected to ensure it is correctly installed.
- Used only by operatives who have received adequate information, have been instructed, and who are trained.
- Has suitable safety measures such as emergency stops.
- Is used in accordance with any specific requirements for that particular equipment.

What must you, the employer, do?

- Ensure that the equipment is suitable for use.
- Take account of the working environment when selecting suitable work equipment.
- Ensure that the equipment is used for the purpose it was intended for.
- Ensure that equipment is maintained in good repair and order.
- Keep the maintenance log up to date.
- Ensure correct installation and inspect before use.
- Inspect the equipment regularly to ensure that faults are detected in good time.
- Ensure that all staff using or supervising the work equipment are provided with clear information on the equipment, including health and safety information instructions on its use and warnings, including in a written form if necessary.
- Ensure that anyone who uses or supervises the equipment is adequately trained to use it.
- Take effective measures to prevent access to dangerous parts of machinery.
- Take adequate measures to prevent parts or materials from falling from, or being ejected from the work equipment.
- Ensure that the risks from hot or cold temperatures are managed to prevent injury.
- Provide means of isolating work equipment from all power sources.
- Ensure work place equipment is stabilised by clamping.
- Ensure that the equipment can be safely shut down for maintenance.

“How do you make sure it is suitable use so that it will it safely and legally carry the load required?”

How does all of this apply to a company vehicle? How do you make sure it is suitable use so that it will it safely and legally carry the load required? Will go “off-road” if required? Is it robust enough to travel long distances? How do you make sure it is safe to use? Is it regularly serviced, does the driver regularly check the condition of the vehicle especially the tyres, brakes lights and steering? How do they record these checks? Is the operative competent to drive the vehicle? Do they have the correct licence, are they adequately trained and experienced in the size of vehicle? Is the vehicle being used appropriately?

“So how would a competent ground investigation contractor practically comply with PUWER with respect to company vehicles?”

So how would a competent ground investigation contractor practically comply with PUWER with respect to company vehicles? They would use their experience and knowledge to provide a range of appropriate vehicles for their fleet, from cars, small vans, landrovers, transporters, flatbed trucks and articulated transport. They would carry out risk assessments for each site and select the appropriate vehicle. Staff would be trained and supervised to use vehicles appropriately. Routine daily and weekly checks should be carried out along with planned and recorded scheduled vehicle maintenance. It is also useful to include signage in vehicles to inform the driver of safe working loads, vehicle safety alerts, COSHH sheets etc.

How does all of this apply to company rigs? Is the rig suitable for use? Is it being operated outside of its user manual guidelines or should a different rig be used? Is it safe to use? Is it regularly serviced, does the lead driller regularly check the condition of the rig? How do they record these checks? Is it compliant with LOLER? Is the lead driller competent to operate that particular rig? Do they have the correct training and experience for that particular rig? Is the rig being used appropriately? Is it suitable to be used on a slope?

“Is the rig being used appropriately? Is it suitable to be used on a slope?”

So how would a competent ground investigation contractor comply with PUWER with respect to company rigs? They would use their experience and knowledge to select the correct rig for the task. They would take account of the working environment when selecting suitable “work equipment” by carrying out a risk assessment and assessing whether adaptations such as spark arrestors and Chalwyn valves are needed, the area needs venting or to assess if there a risk of overturning etc? They would ensure that the equipment is used for the purpose it was intended for by using well trained operatives. They would also ensure that the equipment is maintained in good repair and order by having a maintenance programme and regular rig inspections to ensure that faults are detected in good time and keep the daily maintenance log up to date.

“They would also ensure that all staff using or supervising the work equipment are provided with clear information on the equipment, including health and safety information…”

They would also ensure that all staff using or supervising the work equipment are provided with clear information on the equipment, including health and safety information instructions on its use and warnings and a rigorous training programme and a site specific drill brief. To prevent access to dangerous parts of machinery a physical guarding across all rotating parts with automatic cut off if breached is required, and adequate measures are needed to prevent parts or materials from falling from, or being ejected from the work equipment by regular checks, maintenance and PPE.

Does this put a different perspective in to choosing your company car, it’s a little less about bodywork colour and 0-60 mph in the least time possible! ■

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The true value of a good ground investigation is all too often missed and as an industry we often revert to blaming the client or resigning ourselves to 'lowest cost always wins'. However, the geotechnical industry is full of intelligent, competent, resourceful and hard-working individuals.

Geotechnica 2016 will reflect on the current 'state of the industry', look at what the industry is doing well, lessons learnt from past and ongoing projects, innovations and emerging technologies. It is an inclusive event and will be used to share knowledge, promote best practice and help the industry debate, evaluate and establish initiatives to move forward.

Why should you be at Geotechnica 2016?

- **Communicate** with industry leading practitioners.
- **Promote** your services, latest products and innovations.
- **Network** with new potential clients and customers.
- **Learn** from the best minds the industry has to offer.

Who will you see at Geotechnica 2016?

Over the last eight years Geotechnica has successfully attracted almost every single one of the UK's largest geotechnical companies, from **clients** to **contractors**, **laboratories** to **geophysicists** - anyone who is anyone in the geotechnical industry has visited Geotechnica. Expect to see the industry's **brightest and best minds**, as well as some excellent **product manufacturers** and **suppliers**.

How do you register to visit?

Simply head online to **www.geotechnica.co.uk** to register now.

Conference Speakers include:

Professor Iain Stewart
Director of Sustainable Earth Institute - Plymouth University
Keynote Address

Professor Eddie Bromhead
Chief Scientific Editor QJEGH Editorial Board - The Geological Society & Former Professor - Kingston University
Keynote Address

Jonathan Gammon
Head of Ground Investigations - HS2 Ltd

Professor David Norbury
Director - David Norbury Ltd

Professor Paul Nathanail
Professor of Engineering Geology - Nottingham University & Managing Director - LQM Ltd
Title: *Changes to the Planning system - revised National Planning Policy Framework; Planning & Housing Bill; Brownfield Registers.*

Dr John Powell
Technical Director - GEOLABS Ltd
Title: *Geotechnical laboratory testing vs. In situ testing*

Tom Lunne
Expert Advisor - Norweigan Geotechnical Institute
Title: *Using offshore sample quality methodology for onshore investigations*

Andrew Milne
Project Chairman - AGS/BDA Task Force & Managing Director - Geotechnical Engineering
Title: *State of the Industry 2016*

Tom Phillips
Managing Director - RPA Safety Services
Title: *Design and CDM – A joined up approach to the principles of good (safe) design*

Adrian Wilkinson
Director - LM-Geotechnical
Title: *Drones – The Law & the Benefits*

Dr Simon Hughes
Operations Manager - TerraDat
Title: *The importance of Near Surface Geophysics in Geotechnical Site Investigations.*

Kim Beesley
Managing Director - European Geophysical Services
Title: *How, When and Why to Geophysically Log in Site Investigations?*

Plus many more industry leading experts.

Conference Programme

Key topics to be discussed in 2016

Session - Planning

This session has talks which discuss how planning is key to the ground investigation process and where the success of the project's outcome is often established. Planning is not only about how the work is specified and executed but also about building a strong team and ensuring the strengths and expertise of the individuals and each party is used appropriately. This session will also discuss how proposed changes to the Planning System may affect geo-environmental ground investigations.

Session - Health, Safety and Environmental

This session will provide an update on current hot topics which are affecting the ground investigation industry. The experts will provide an overview and offer suggestions and approaches to improve safety and implement safety requirements.

Session - Laboratory Testing and Sampling

The value of geotechnical laboratory testing is currently in the spotlight and many leading consultants are disputing the need. As sample quality and representativeness is often unquantified and time constraints on projects are tightened the usefulness of laboratory test results as part of the design tool is becoming less critical. This session will open up the debate but also offer methods for quantifying quality and suggesting alternatives to laboratory testing such as in situ testing.

REGISTER ONLINE NOW @ WWW.GEOTECHNICA.CO.UK

Session - Ground Investigation Techniques

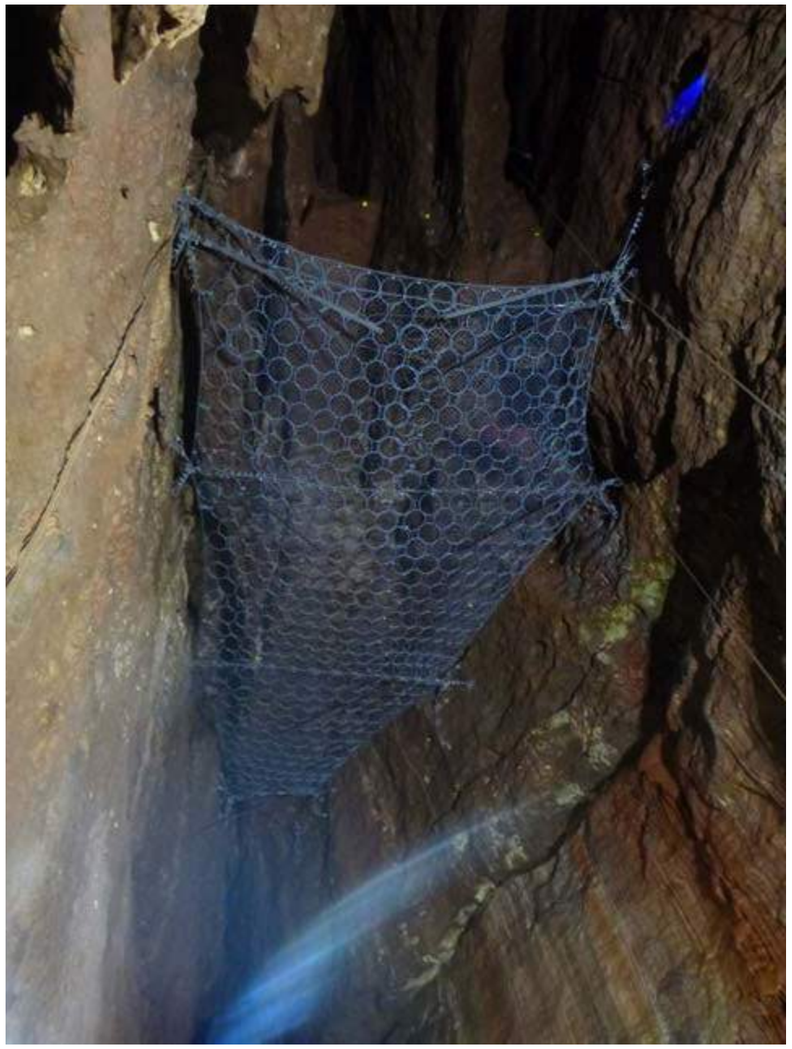
This session will start with a review of the 'state of the industry'. This will be a summary of where the industry is now and if it is in a strong position moving forward. The session will also discuss whether the UK can learn lessons from international practices and techniques.

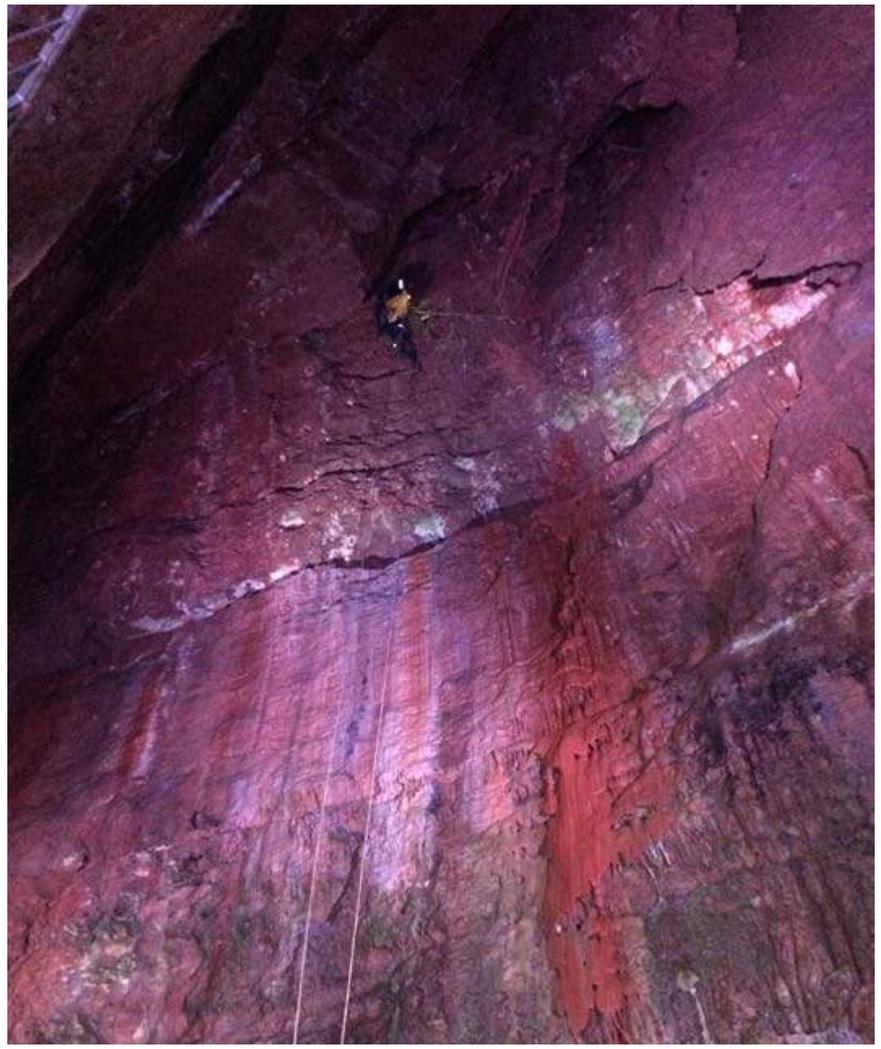
Session - Maximising the benefits of Ground Investigation Specialist Services

This session will provide essential insights into the benefits of How, When and Why ground specialists should employ or deploy specialist services. Specialist services such as geophysics, CPT etc are thought to be commonplace but are often not specified on projects because they are seen to be over-complicated, expensive or just poorly understood. The technical experts within this session will highlight the benefits of using such services, raise awareness of new technologies and provide useful advice for specifiers and users.

Session - Innovation and Emerging Technologies - Where next for the industry?

This session will discuss hot topics within the industry which will help forge a better and stronger industry moving forward. The speakers will highlight new approaches, innovation and emerging technologies which if embraced could open up a new direction for the industry and new opportunities.





Left: Above and Below Rope Access placing bolts prior to the installation. The block to be caught is immediately to the left of the contractor.

WOOKEY HOLE CATCH NETS

Providing their first contribution to* theGeotechnica *is Tony Bailey, Project Manager at* Geobrugg AG*. In this excellent case study, Tony explains how Geobrugg used innovative methods to install vital catch nets at Wookey Hole.

Frederick Sherrell Ltd Consulting Engineers approached Geobrugg to ask "is it possible to create a horizontal rock fall style catch net to catch and hold a potentially unstable 10 ton boulder?". The client was Wookey Hole Show Caves who were planning to bore a new tunnel from an existing show cave to a cave that was previously only accessible to divers. Following a geotechnical assessment by the consulting engineer it was deemed that there was a risk that the vibration from the boring could dislodge a 10-ton block in the roof of the currently accessible cave, posing a risk to both the crew carrying out the works and to the public visiting the caves.

As an added complication all tools, equipment, anchors and all components of the catch net had to be carried into the cave system by hand. A specialist rope access contractor, Above and Below Rope Access with extensive caving experience were engaged. As the catch net needed to be installed some 30m above the floor of the cave all of the installation works needed to be done using ropes access techniques. The first task was to use a combination of caving and rope access techniques to install bolts to enable the rope access works.

The anchors had to be drilled and installed using hand held equipment, this necessitated the use of short 300mm and thin 16mm anchors. To add to the complication of short anchors, the bed rock within the cave is a Dolomitic Conglomerate with a mean strength of only 35-40MN/m^2. Following pull out tests we were required to design for a max load of 40kN per anchor.

To enable the load from a potential impact to be distributed without anchor failure Geobrugg came up with a solution where they used five transmission ropes running across the width of the cave, each rope was connected to a Geobrugg U300 brake element the same as used in our conventional rock fall catch fences, this is a 300mm long linear brake element to enable maximum energy dissipation before the loading of the anchors.

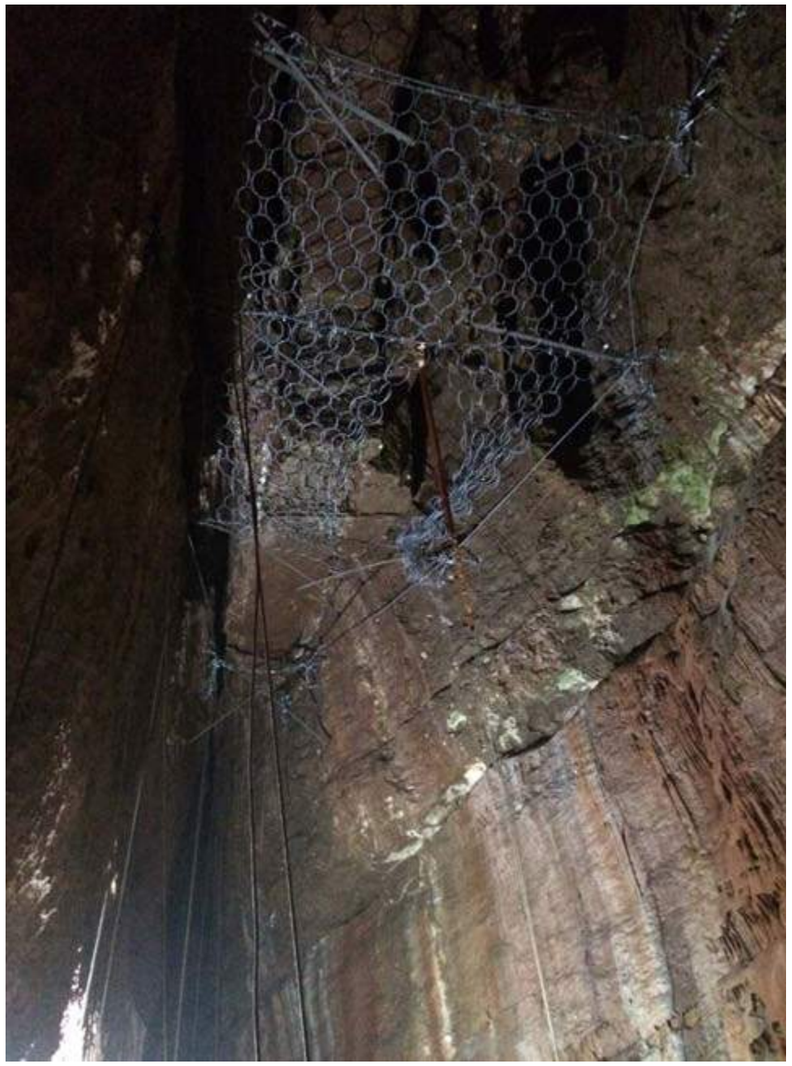
"Working with the designers at Frederick Sherrell, Geobrugg designed a novel anchor solution to give a suitable factor of safety…"

Working with the designers at Frederick Sherrell, Geobrugg designed a novel anchor solution to give a suitable factor of safety given the weakness of the rock they were presented with. For each brake element they installed four anchors, these were joined in pairs by wire rope, both wire ropes

were brought together at a central point for attachment to the U300 brake. To prevent any potential rock fall from falling off the side of the catch net they also installed two lateral ropes to give the net a defined shape. In total 14 sets of 4 anchors were installed all using rope access techniques, this was quite a considerable task.

"For the catch net itself Geobrugg engineers came up with a custom solution."

For the catch net itself Geobrugg engineers came up with a custom solution. Given the potential energy of the falling block they looked at a solution to modify their RXE-2000 rock fall fence, using their ROCCO 12/3/350 ring net made from our unique high-tensile strength steel wire. Given the requirement to carry the net into the caves by hand and to winch it in to the roof of the cave by hand, they manufactured the catch net in seven custom sized panels to allow for easier handling, maneuverability and installation. Geobrugg manufactured and



labelled all of the ropes and the required fittings to the correct sizes. Using the same approach they use for all of their standard products, they produced custom installation drawings and instructions all to enable the easiest and quickest installation of the catch net for the contractor on site.

After the installation of the catch net was completed the contractor commented that the installation was extremely straightforward and far less complicated and time consuming than he had expected. He put this down to the clear system drawings provided and the easy availability of a Geobrugg Engineer on the telephone to answer any queries, he was especially impressed that this level of service and drawings were available for a custom designed product. ■

Above: Catch net during construction, note the presence of two smaller panels about to be joined together. This was done to allow the panels to be carried in to the caves by hand.

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CABLE PERCUSSION GUIDANCE UPDATE

BDA SET TO RELEASE COLLABORATIVE GUIDANCE UPDATE

The following is an update on the upcoming release of new Cable Percussion Drilling Guidance notes to be provided by the British Drilling Association. The new guidance will look to build on previous versions to provide the most complete guide to cable percussion drilling that has ever been released in the UK. The writing of the new guidance will be a collaborative effort by a number of highly experienced cable percussion drillers, in the hope that the outcome will be as balanced and detailed as possible.

It has recently been confirmed that the British Drilling Association (BDA) will shortly be publicising the new Guidance for the operation of Cable Percussion drilling rigs. The Association have decided that unlike previous versions of guidance, this new release will be available to all sectors of the industry completely free of charge. The finished guidance is set to be released as a downloadable document from the BDA website. The Cable Percussion guidance is the first of many guidance updates planned by the BDA. Following the release of the CP Guidance, Rotary and Dynamic Sampling (2007) documents will follow.

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The updated guidance has been written by industry experts, including a number of vastly experienced current and past CP drillers. This broad spectrum of knowledge and experience has been greatly appreciated, and has ensured that the guidance is a true reflection of not only how the operation of Cable Percussion rigs should be carried out, but also in large how the industry works. It is hoped that the guidance will set the standard to which all CP drillers and companies will we encouraged to perform to. This new group of guidance notes will provide a much more detailed look into the methodology behind Cable Percussion works, unlike previous versions which have focused almost solely on the health and safety aspects of the techniques.

By making this new release a free download it has enabled these documents to be updated as and when required. This means that future updates will be made immediately at the point of necessity, rather than having to wait for entire rewrites of the guidance to occur.

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The authors have spent a great deal of time ensuring that the document has looked at all aspects of both British and European Standards to give clear concise guidance on where each Standard fits into Cable Percussion works. It is hoped that the new guidance will leave no doubt in reader's mind as to how things should be done to comply fully with British and European Standards.

New areas covered in the upcoming guidance release include: Sampling and testing installation; improved record keeping; driving requirements and also the required competence and qualifications.

The guidance will also offer advice in new areas such as occupational health and safety.

Written for everyone – drillers, engineers and clients alike – it will spell out how the entire process is carried out and will be the bench mark for all the major current projects such as HS2 and potential future projects such as Crossrail 2.

The new guidance is set to be released soon, although a final date has yet to be confirmed. Check the British Drilling Association website for further updates and a final release date in the near future. ■

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